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STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

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December 21, 1994

Ms. Julie Erickson
United States Department of Energy
P.O. Box 550 MSIN: H4-83
Richland, WA 99352

Dear Ms. Erickson:

The Washington State Department of Ecology (Ecology) has completed its review of the *300 Area Process Trenches Closure Plan DOE/RL-93-73* along with the following supporting documents; *Data Limitations and Validations Report for 316-5 Process Trenches Expedited Response Action, WHC-SD-EN-TI-024 Rev 0., and the 316-5 Process Trench Expedited Response Action Volatile Organic Data WHC-SD-EN-TI-042., Rev 0.* Enclosed please find the Notice of Deficiency comments and comments regarding the supporting documents. 38154 22518 24279

Response to comments are due to Ecology no later than 90 days from date of transmittal.

If you have questions or concerns, please contact me at (509) 736-3012.

Sincerely,

Ted A Wooley

Ted A. Wooley
Environmental Specialist
Nuclear Waste Program

TW:mf

Note:
THE Correct title of WHC-SD-EN-TI-042 is "Data Validation and Limitations Report 300-FF-1 Operable Unit 2: April 17, 1992" per TA Wooley 12-29-94. mcc

cc: Bob McLeod, USDOE
Dave Einan, EPA
Administrative Record, 316-5 Process Trenches

The Washington State Department Of Ecology
The 300 Area Process Trenches Closure Plan
Notice Of Deficiency

General Comments

The overriding concern the Washington State Department of Ecology (Ecology) has with integrating the process trench closure plan with the *300-FF-1 operable Unit Focused Feasibility Study/Proposed Plan* is the public involvement aspect. Ecology will consider any attempts by the United States Department of Energy (USDOE) and its contractors to minimize the administrative and technological burdens associated with meeting the requirements of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and The Washington State Dangerous Waste Regulations (WAC 173-303), as long as these minimizations are both technically and legally sound. It may be acceptable to minimize the public review process through submission of a single document, however, this document must propose both the RCRA and CERCLA remedial actions options (i.e., an appended proposed plan).

Specific Comments

Chapter 1

Page 1-5

1) Line #7. Treatment by soil washing of the RCRA TSD soils would preclude a clean closure, unless the treated soils were placed outside of the TSD, such as disposition in ERDF.

Requirement: Clarify how soil washing will be used for treatment the TSD soils.

2) Line #10. Soil washing (for 300 Area application) was developed primarily for the reduction of isotopic uranium and nothing else. Because of the difference in the contaminated soils that are contained within the TSD and the rest of the OU, it may be inappropriate to consider interchangeable placement of the treated soils, because of the possibility of cross contamination.

Requirement: Justify how managing the soils in this way will not create cross-contamination.

3) Line #20. Proceeding with remediation prior to approval of the closure plan would require starting work without public approval. Ecology is not willing to support this approach.

Requirement: Justify how this can happen, or remove this text from the closure plan.

4) Line #25. When discussing the possible functional equivalency between WAC 173-303-610 and the federal regulations, it is necessary to make a point-by-point comparison. Examples of

how this has been done in previous approved documents can be found in most of the RFI\CMS work plans. General or blanket statements regarding this are unacceptable.

Requirement: Provide this comparison within the closure plan.

5) Line # 29-33. Using MTCA methods A-C to establish Health Based Limits (HBL) for RCRA corrective action is very similar to using HSBRAM to establish acceptable risk numbers for a CERCLA remedial action. Therefore, it is incorrect to view this as a difference between RCRA and CERCLA waste unit management.

6) Line # 38. This sentence should read, "Section 121 of CERCLA requires adherence to applicable **or** relevant and appropriate."

Requirement: Revise text accordingly.

Page 1-6

7) Line #16 and #17. The reference to MTCA is incorrect.

Requirement: Change DOE-RL 1992-c to WAC-173-340.

8) Line#18. It is true that HSBRAM formulas were taken from MTCA, however, this does not necessarily mean that the entire HSBRAM can be used for the purpose of establishing HBLs for the 300 APT. There may in fact be only portions of the document that would be applicable for this purpose. It should be noted that Revision 3 of HSBRAM is currently being developed, however, Revision 2 is the one that Ecology is working from.

Requirement: A discussion concerning the specific parts of HSBRAM that are being used and how these sections apply to the closure process will need to happen prior to approval.

Page 1-7

9) Line # 40-42. Agreement by the regulators through the ROD that all waste (e.g., CERCLA and TSD waste) removed during the cleanup is remediation waste has no bearing on the waste acceptance criteria for ERDF. There may be a contained determination made for the F-listed contaminants, thereby allowing the disposal of TSD waste in ERDF, but this has not occurred and is not guaranteed.

Requirement: The ROD or finalized closure needs to provide contingencies for disposal options other than ERDF in case the TSD waste cannot be disposed of there.

10) Line # 48-52. The closure states that the TSD unit waste, even if it is above clean closure levels, does not designate under WAC-173-303. It is important that the exact citing (e.g., part, paragraph, subparagraph, etc.) within the WAC be given and that the interpretation of the WAC is agreeable to the regulators, otherwise this statement will not remain as a part of the closure.

Requirement: Give the specific citing regarding this issue. Prepare a justification on the position taken.

Chapter 2

Page 2-2

11) Line #34-38. This paragraph discusses the composite sampler that has been sampling the effluent liquid discharge from 1975 to 1993, with current sampling done through a system located outside of the unit. Line # 31 of the previous paragraph describes the current discharge occurring at the East trench. Is this discharge being sampled?

Requirement: Provide sampling results or reference where these results can be found.

Page 2-3

12) Line #43-44. This sentence describes use of the ERA sampling results as the basis for the risk assessment for the TSD unit. The following questions need answers: 1) Was an adequate DQO process performed based on appendix nine of 40 CFR 264? 2) What level of validation was performed on the data generated from the ERA sampling results? The differences in levels of validation between a interim CERCLA action and a RCRA TSD closure (e.g., SW-846 vs. non-SW-846), may preclude using the data generated under the CERCLA action for use in a RCRA closure. Use of the ERA data for risk assessment of the trenches may or may not be appropriate.

Requirement: Agreeable answers with examples will need to be provided to the above questions. An evaluation of the ERA data will need to occur to determine if a proper risk assessment for the trenches can be performed with the current data available.

Chapter 3

Page 3-3

13) Line #27-31. The approved Sampling Analysis Plan (SAP) discussed in this paragraph needs to be provided. Ecology is not aware of the approval process that was completed for the SAP.

Requirement: Provide the SAP. Also provide information regarding who approved the document and the date it was approved. This information will be necessary for Ecology to accept the SAP as being valid.

14) Line #33-44. Table 3-4 is referenced as containing estimated quantities for all chemicals discharged from 1975 based on both current and historical information, however the historical information is non-verifiable. It is also stated that both categories of information are used through the RI\FS process to characterize the trench. Ecology's concern with this is that all

information used to characterize a waste site should be verifiable. Decisions made concerning the

cleanup will be weighted more on the verifiable information and much less on the non-verifiable.

Requirement: Further discussion of the use of the historical information will need to occur.

Page 3-4

15) Line #23-29. There needs to be some clarification as to the intended use of the derived concentration guide and how using it allows for compliance to RCRA and WAC-173-303.

Requirement: Provide this information.

Chapter 4

Page 4-2

16) Line # 37-47. The concern here is whether or not the analytical process used to determine the concentrations of the organic constituents was in any way hindered by uranium. In some cases, if enough radioisotope is present in the sample being analyzed, it is possible the method of analysis may be inhibited in terms of the detection limits for the organic constituents, thus yielding erroneous results.

The contained-in determination will be based primarily on the data that is presented. If the data is not convincing, then determining whether or not Method B levels for the organic contaminants of concern are met will be difficult, if not impossible.

Requirement: Provide justification that the analytical procedures performed provided adequate detection limits for the organic contaminants of concern and that the data used for the contained determination is defensible.

Chapter 5

17) Section 5.2.2. This section discusses the sampling and analysis plan for groundwater monitoring at the site, without mentioning the frequency of sampling the wells in the monitoring network.

Requirement: Sampling frequency for each well should be presented either in tabular format, as in the year end monitoring report, or discussed in the text.

18) Section 5.2.2. Presently, one groundwater monitoring well is being sampled on a quarterly basis and ten monitoring wells are being sampled on a semi-annual basis. 40 CFR 265.93 states that if a groundwater quality assessment plan was implemented, sampling must occur on a quarterly basis until final closure of the facility. This applies to a system of monitoring wells, not one monitoring well.

Requirement: Justification for reducing the quarterly frequency of sampling to one well out of a total of eleven must be included in the discussion on the sampling and analysis

plan.

19) Section 5.3.2. According to the 1986 Revised Groundwater Monitoring Compliance Plan 16, monitoring wells comprised the monitoring well network. Presently, 11 wells comprise the monitoring well network. To fully assess the adequacy of the monitoring system, the inclusion of historical background information, including the technical justification, (i.e., analytical data) for removing each of the five wells from the groundwater monitoring network will be necessary.

Requirement: Provide historical information and technical justification that would allow for system assessment.

20) Section 5.3.2, Paragraph 1. 12 constituents of concern have been identified in the closure plan. The groundwater monitoring plan states that groundwater samples from some of the monitoring wells at the site will be tested for WAC 173-303-9905 list of dangerous waste constituents, in addition to indicator and water quality parameters. The groundwater quality section should, at a minimum, identify the monitoring wells from which these samples were collected, and present a short discussion of the analytical results.

Requirement: Provide a discussion on identification of the appropriate wells, associated sampling events, and clarification on the analytical results. Groundwater plume maps based on the most recent analytical data must be included for constituents detected above or near the MCLs.

Chapter 6

Page 6-1

21) Line #26-28. The remedial action objectives (RAO) also need to meet RCRA and state requirements for closure of the TSD. The ROD for the 300-FF-1 OU may be able to incorporate the elements of the closure, however, these elements may or may not be directly related to the ERA and RI\FS work plan for the OU.

Requirement: RCRA RAOs need to be specifically identified in the closure. There needs to be agreement between the decision makers whether or not the CERCLA RAOs and RCRA RAOs are equivalent.

22) Line #35-39. It is more appropriate to couch the risk in between 10E-4 and 10E-6, than to simply state that the risk needs to be something less then 10E-4. The FFS (page 2-40) states that the contaminants of concern are determined based on a hazard quotient greater than 1, and a ICR greater then 10E-6. This needs to be clarified.

Requirement: There needs to be a discussion between Ecology, EPA, and USDOE regarding how and if the risk numbers provided in CERCLA documentation are going to be used for closure of the TSD.

Page 6-2

23) Line #7-14. The closure options that have been determined for this TSD must be presented in a non-confusing manner and made available for public review. To fold the closure options into the FFS as primary remediation goals may be acceptable on a purely technical basis, however, there is a risk that the public review of these options may be hindered. Because of this risk, the decision not to list the closure options within the ROD for the 300-FF-1 OU has not yet been agreed upon by Ecology.

Requirement: Formal agreement by Ecology, EPA, and USDOE will need to occur on this aspect of the administrative process, prior to closure approval.

Chapter 7

Page 7-2

24) Line #4-9. Relocating the remediation waste and capping in place within the 300-FF-1 OU would not be considered equivalent to excavation and disposal to ERDF or WO-25 mixed waste trenches primarily because of depth to groundwater. Capping in place will also require post closure monitoring and a post closure permit.

Requirement: Remove or revise this text so that it is not misleading.

25) Line # 31-37. Soil washing has been proven to be a viable option for only the uranium and uranium salts that have been identified within the 300-FF-1 OU soils. The discussion provided in the closure leads the reader to think that soil washing will provide a 90% volume reduction of all the contaminants within the trenches.

Requirement: Revise this text to accurately discuss the potential application of soil washing for remediation of the soils in the 300 APT.

Page 7-4

26) Line #15. There will be a requirement that the backfill will need, at a minimum, SW-846 verification prior to being put back into the trench. Currently, there is no equivalent field screening equipment that could be utilized for this purpose.

Requirement: Revise the closure to include offsite sampling requirements for the backfill.

Page 7-5

27) Line #44-47. The airborne monitoring will need to be coordinated through the Washington State Department of Health, and will need to be addressed in the final closure plan.

Requirement: Revise closure to include air monitoring.

Page 7-7

28) Line #36-40. This discussion on the waste management of the mixed waste totally under CERCLA needs further clarification and, more importantly, a detailed justification.

Requirement: Revise the closure to more completely address this.

Page 7-9

29) Line #1-3. Since capping in place is listed as a possible alternative, why isn't post closure monitoring described in this closure plan?

Requirement: Revise the closure, add text that will address post closure monitoring.

Chapter 8

Page 8-1

30) Line #25-28. If Method A or B cleanup standards cannot be achieved through closure activities, 173-303-610 mandates meeting the requirements of 173-303-610, sections 7-11, which addresses post closure care. This means obtaining post closure permits.

Requirement: Revise the closure plan to require a part B permit

Page 8-2

31) Paragraph 8.1.2. The assumption that MTCA will apply for periodic assessments is incorrect. The only sections of MTCA that are applicable are the specific sections regarding cleanup standards (e.g., -340-700 through -340-730). WAC-173-340-410 is outside of the applicability of MTCA for handling TSD closures.

Requirement: Revise this entire paragraph to discuss post closure monitoring pursuant to 173-303-610 only.

32) Line #30-33. Depending on how the TSD is closed (e.g., clean, modified, etc.,) one assessment every five years may not be adequate. This issue will need further consideration by Ecology, EPA, and USDOE.

Requirement: This issue will need resolution prior to closure approval.

Data Limitations and Validations Report for the 316-5 Process Trenches ERA

WHC-SD-EN-TI-024, Rev 0.

316-5 Process Trench Expedited Response Action Volatile Organics Data

WHC-SD-EN-TI-042, Rev 0.

General Comments

The QA/QC proceedings for the data packages were generally adequate, however, the rejects concerning some of the semi-volatile and metals will have to be discussed. Specific questions for these concerns will be provided below. A more significant deficiency is that there is no site sampling map provided. It is very difficult to make use of sampling results when the horizons at which samples are collected are not well defined.

Specific Comments for The Data Limitations and Validations Report.

Chapter 3

Page 15, Table 3-1

1) This table indicates high to very high levels of the following constituents: aluminum, calcium, iron, magnesium, manganese, potassium, zinc, and sodium. Ecology's concern is that with the levels indicated, there could be a biological toxicity associated with these constituents.

Requirement: These contaminants need to be considered as part of the baseline risk assessment for discussion prior to closure approval.

Page 17, Table 3-1

2) There needs to be a discussion or explanation as to why this entire data package (#N109164) was rejected. Location and depth of the data collection points will also need to be considered. If this data package represents several data points within the trench area, it may be leaving a significant data gap.

Requirement: Provide the above information.

Page 19 Table 3-1

3) Selenium is reported as rejected, why?

Requirement: Provide this information.

Page F-4, Summary Of Results Data Qualifiers

4) Aluminum and manganese are rejected, why?

Requirement: Provide the information/reasoning.

Page F-14 Inorganic Analysis Data Sheet

5) The data package for sample #BOOVQ8 reports that silver was rejected, why?

Requirement: Provide an explanation for the rejection.

Page G-14 Inorganic Analysis Data Sheet.

6) Aluminum, iron, copper, manganese, and magnesium are reported at potentially unacceptable levels. This round of sampling needs to be reviewed for location within the trench. In all cases where the reported sampling results are suspiciously high in concentration, the location from which the sample(s) was taken will have to be delineated, and the potential impact to the groundwater assessed.

Requirement: Provide a sampling map or grid for the 300 APT which includes the depth and lateral positioning of each of the sampling points.

Page G-18 Inorganic Analysis Data Sheet

7) Data package #B01021 was rejected. This is confusing. Why does the table provided on page G-14 (which is indicated as the same data set) contradict page G-18? Clarification is needed to justify the rejection. Ecology recognizes that certain types of rejections don't necessarily make the data unusable, however, when those situations arise, they need to be identified so that the data gaps that are created by the rejection of data can be lessened.

Requirement: Provide an explanation of the logic used to reject a data set that was previously qualified (i.e., presumptive qualification [N]) within the same data report. Refer to pages G-14 and G-18.

Pages I-24-26 Inorganic Analysis Sheet

8) Data packages for samples #'s BO1044 an BO1046 report high levels of aluminum, calcium, iron, magnesium, manganese, potassium, and zinc. It is obvious that there is a undesirable trend associating many of the samples that have been collected for characterization of the trenches.

Requirement: Include these data results in the upcoming discussions regarding the potential biotoxicity associated with these contaminants and those already previously identified in this NOD.

Page L-16 Inorganic Analysis Sheet

9) Same concern and requirement from comment (#7) applies to data package for sample #B014Q8. See above.

Specific Comments of TCLP Volatile Organic Data

Page A-B-16, Semi-Volatile Organics Analysis Sheet

10) This report indicates that there is an extremely high concentration of an unknown hydrocarbons. The question is whether or not there was an effort to identify any of these unknowns.

Requirement: Provide information regarding how this matter was handled. If there was additional analysis to further identify contaminants of concern, provide copies for regulator review.

Specific Comments for Document # WHC-SD-EN-TI-042, REV 0.

Page 5-6 Sample #B00V50

11) The pH analysis was rejected for this sample, provide a reason and the possible ramifications that a rejection of this nature would have on the overall usability of this data.

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